

## **THE CLAIMS**

### **What is claimed is:**

5        1. A semiconductor process system adapted for processing of or with a material therein, said system comprising:

a sampling region for the material;

an infrared radiation source constructed and arranged to transmit infrared radiation through the sampling region;

10        a thermopile detector constructed and arranged to receive infrared radiation after the transmission thereof through the sampling region and to responsively generate an output signal correlative of said material; and

process control means arranged to receive the output of the thermopile detector and to responsively control one or more process conditions in and/or affecting the  
15        semiconductor process system.

2. The semiconductor process system of claim 1, wherein the material comprises a solid.

3. The semiconductor process system of claim 1, wherein the material comprises a fluid.
4. The semiconductor process system of claim 1, wherein the material comprises a liquid.
- 5 5. The semiconductor process system of claim 1, wherein the material comprises a gas.